PLANNING GUIDE

FOR

Safetran TOTAL PACKAGE SYSTEMS

for RAILROAD-HIGHWAY GRADE CROSSING PROTECTION

CONTROL DEVICES

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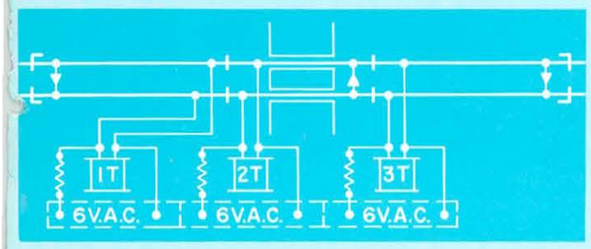

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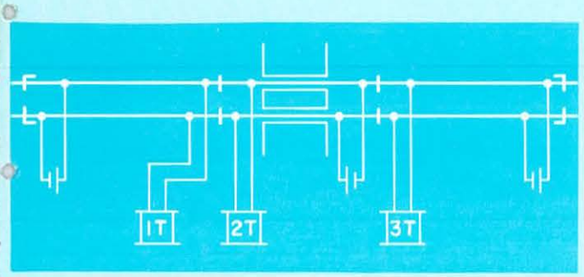

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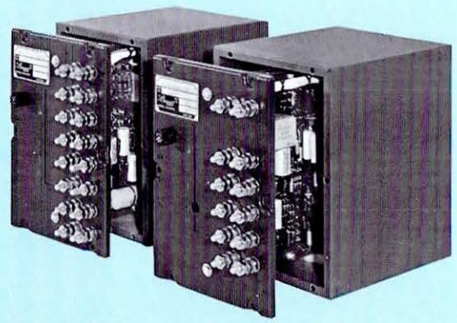

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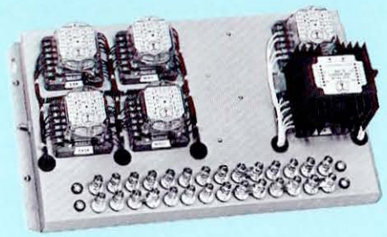

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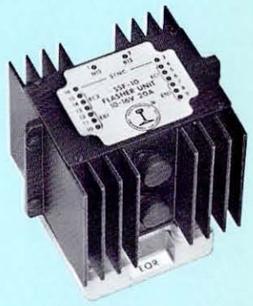

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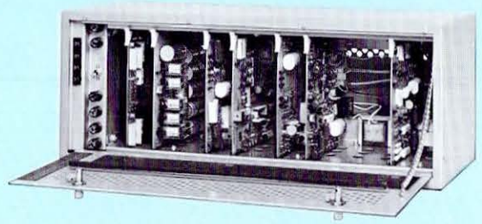

The MIPCO "GCP" GRADE CROSSING PREDICTOR is highly recommended to keep signal operations to a minimum at locations where train speeds vary, high density traffic is present and switching moves exist – the highest state of art currently in use. The device is fail safe in design offering constant warning with a solid state analog computor that computes both train speed and distance as it approaches the crossing and activates the crossing protection on a time basis by computing the trains arrival. Elapsed time, from the instant the protection is activated until the train enters the crossing, is the same regardless of train speed. If a train stops before reaching the crossing, the warning signals are also stopped. As the train again starts toward the crossing, the GCP reactivates the crossing protection.

PROTECTION

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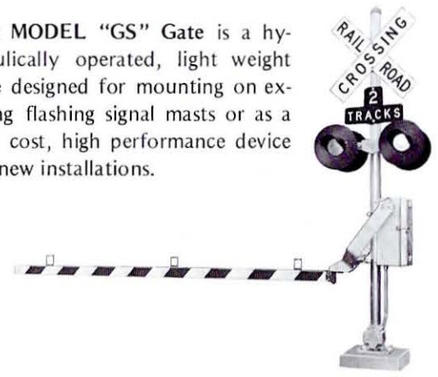

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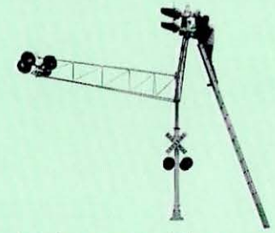

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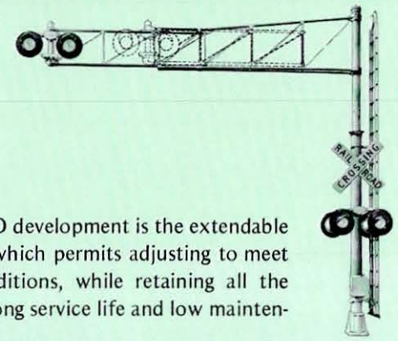

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PROTECTION	TRACK	CONTROLS	POWER
1. FLASHERS	1. SINGLE NO SWITCHES	1. TYPE "C"	1. RECTIFIER TRANSFORMER POWER-OFF RELAY
2. CANTILEVER	2. DOUBLE NO SWITCHES	2. "DC"	2. ATC REGULATOR
3. GS GATE	3. OTHER	3. "PSO"	3. NO STANDBY
4. S GATE		4. "PMTC"	4. OTHER
5. EM GATE		5. MOTION SENSOR	
6. OTHER		6. "GCP"	
		7. OTHER	

EXAMPLE: IF YOUR PACKAGE NUMBER IS: 2 1 1 1

PACKAGE 2111 – CONSISTS OF (2) CANTILEVER SIGNALS ON (1) SINGLE TRACK USING (1) TYPE "C" TRACK CIRCUITS AND (1) RECTIFIER, TRANSFORMER, POWER-OFF RELAY.

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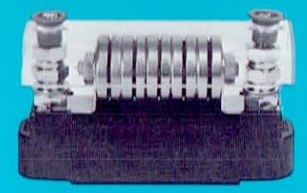
ACCESSORIES

RACO "CLEARVIEW" LIGHTNING ARRESTER

RACO SEALED RESISTOR

RACO EQUALIZER AND COVER

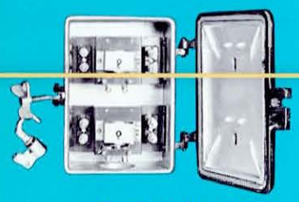

RACO POWER PROTECTOR

RAILHEAD BOND AND PUNCHES

RACO STRAN PIN AND BOND STRAND

RACO BOOTLEG

RACO ADJUSTABLE RESISTOR


RACO KEY OPERATED CIRCUIT CONTROLLER

RACO SOLID STATE PROTECTOR

RACO HEAVY DUTY SURGE PROTECTORS

SAFETRAN OFFICES AND PLANTS

MARQUARDT INDUSTRIAL PRODUCTS CO.

Mr. J. D. Aldern, Vice President & Gen. Mgr.
9271 Arrow Highway
Cucamonga, California 91730
(714) 987-4673

RAILROAD ACCESSORIES COMPANY

Mr. Frank Youngwerth, Vice Pres. & Gen. Mgr.
4650 Main Street N.E.
Minneapolis, Minnesota 55421
(612) 560-4400

Mr. R. A. Molinari, Vice Pres. & Gen. Mgr.
7721 National Turnpike
Louisville, Kentucky 40214
(502) 361-1691

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SOUTHEASTERN RAILROAD MATERIALS, INC.

Mr. R. L. Morrow
595 North Avenue N.W.
Atlanta, Georgia 30318
(404) 523-2402

Mr. I. Jack Stephens
1914 Beachway Road, Suite 1-A
Jacksonville, Florida 32207
(904) 398-1193

IN CANADA:

VALE ENTERPRISES, LTD.
Mr. H. J. Vale
1121 Claire Crescent
Lachine, Quebec
(514) 637-2388

SAFETRAN SALES OFFICES

Mr. H. C. Palmer, Vice President Sales & Service
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Mr. D. E. Emery, Regional Sales Manager, Eastern
930 Parkside Blvd., Northridge, Claymont, DE 19703, (302) 798-0708
Mr. P. E. Pierce, Regional Sales Manager, North Central
1024 LaFayette St., Aurora, IL 60538, (312) 897-3009
Mr. R. D. Birt, Sales Engineer
4650 Main St. N.E., Minneapolis, MN 55421, (612) 560-4400
Mr. L. G. Phillips, Regional Sales Manager, South Central
1001 East Touhy Ave., Des Plaines, IL 60018, (312) 297-4690
Mr. B. A. Lundy, Jr., Sales Engineer
500 C Beacons Court, Salem Harbor, Andalusia, PA 19020 (215) 638-0751
Mr. W. B. Clinton, Sales Engineer
3112 Thrust Court, St. Charles, MO 63301, (314) 724-2075
Mr. N. B. Smith, Regional Sales Manager, Western
9271 Arrow Highway, Cucamonga, CA 91730, (714) 987-4673
Mr. E. L. Wall, Sales Engineer
1761 Harvest Road, Pleasanton, CA 94566, (415) 846-5274

PRODUCT LINE SUPPORT

Mr. J. V. Hoffart, Product Line Manager, Communications
9271 Arrow Highway, Cucamonga, CA 91730, (714) 987-4673
Mr. R. M. Peters, Asst. Prod. Line Mgr., Communications
1001 East Touhy Ave., Des Plaines, IL 60018, (312) 297-4690
Mr. Paul Martin, Product Line Manager, Maintenance of Way
4650 Main St. N.E., Minneapolis, MN 55421, (612) 560-4400
Mr. H. L. Anderson, Asst. Prod. Line Mgr., Maint. of Way
7721 National Turnpike, Louisville, KY 40214, (502) 361-1691

ENGINEERING SERVICE

RACO and MIPCO have the engineering, designing, manufacturing and installing abilities to render professional assistance in providing all types of automatic Railroad Highway Grade Crossing signal protection. Complete turnkey packages or individual equipment are available to up-date or improve existing installations.

Safetran Systems Corporation

MAIN OFFICE: 7721 NATIONAL TURNPIKE • LOUISVILLE, KY. 40214 • (502) 361-1691

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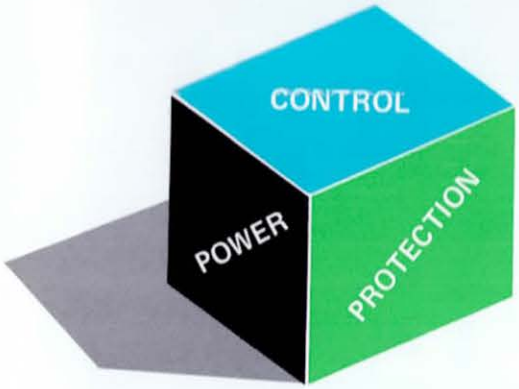

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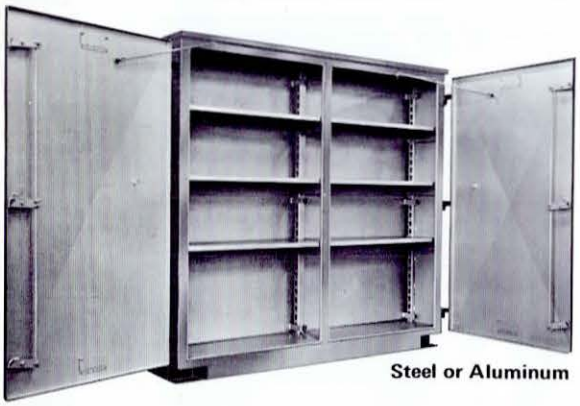

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It is with the knowledge that conditions, requirements and desires vary greatly from one location to another that we offer you a complete wired system, designed and built especially for your application—a system incorporating the precise equipment to meet your operating requirements and to assure maximum efficiency at minimum cost with long trouble free life.

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To assist your system selection, a brief description of the basic types of control devices and their operation follow.

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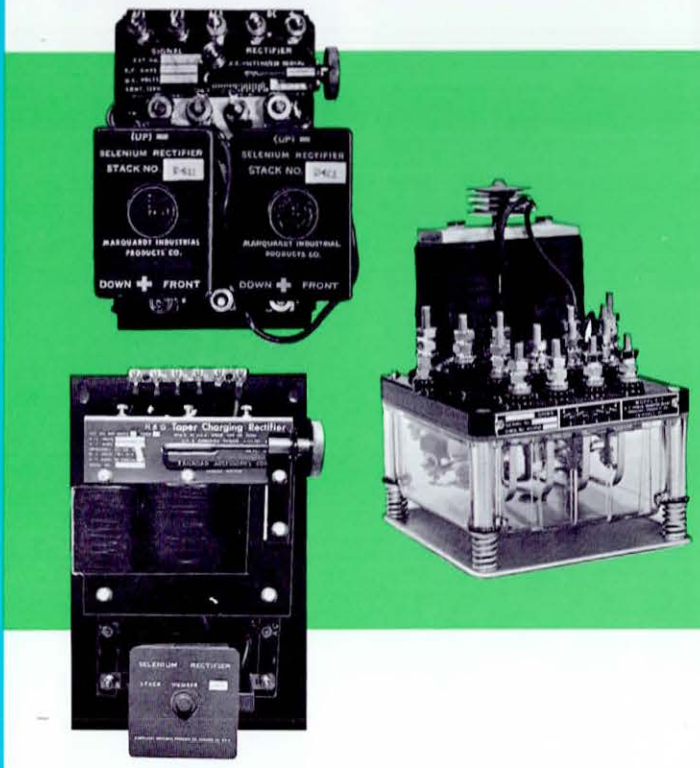

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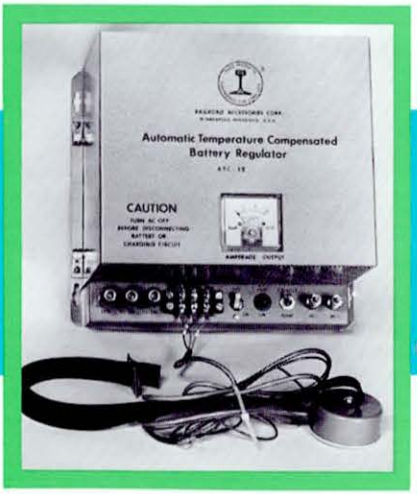

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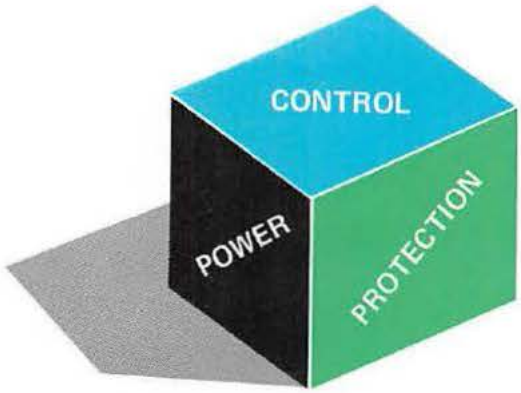

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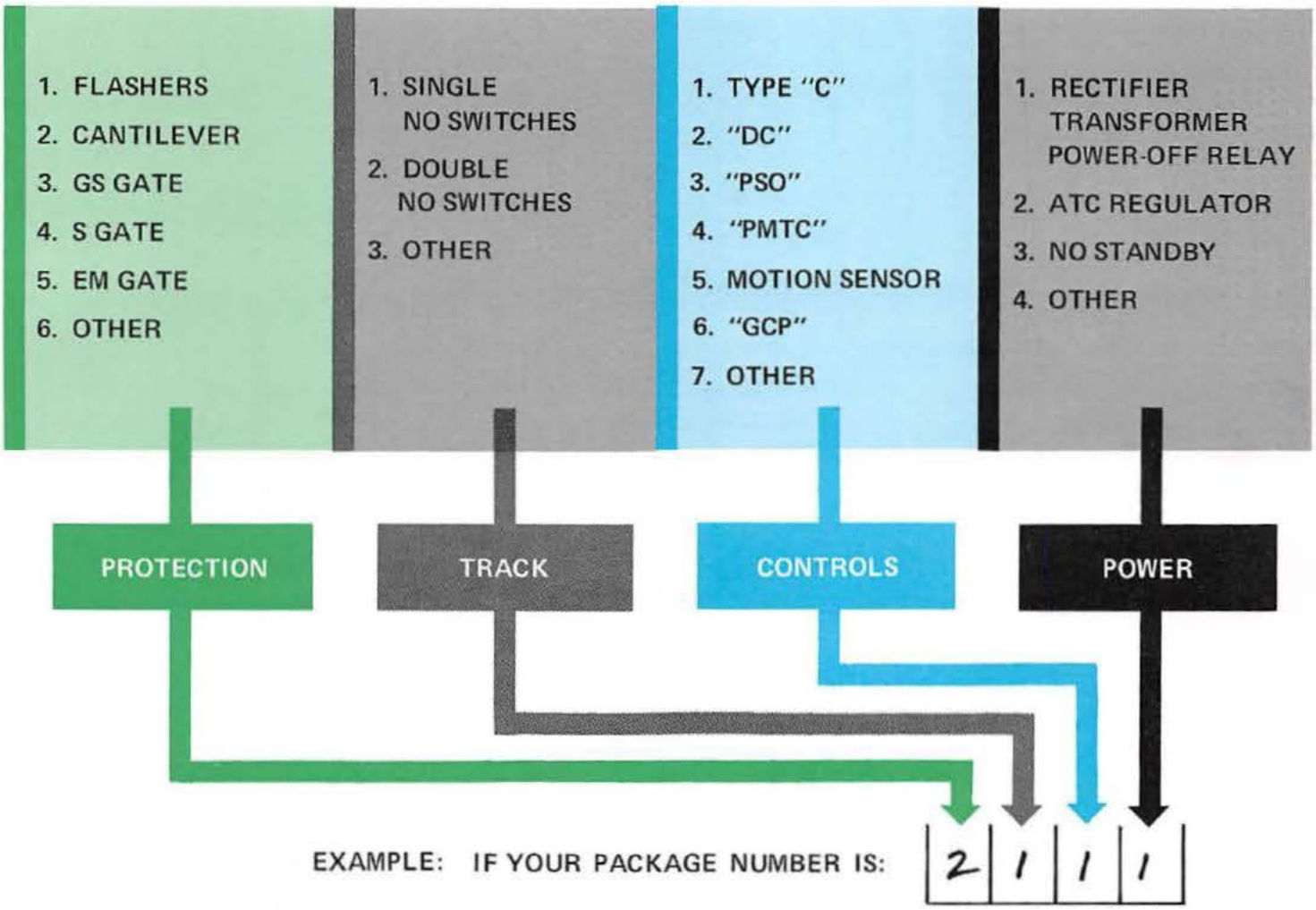

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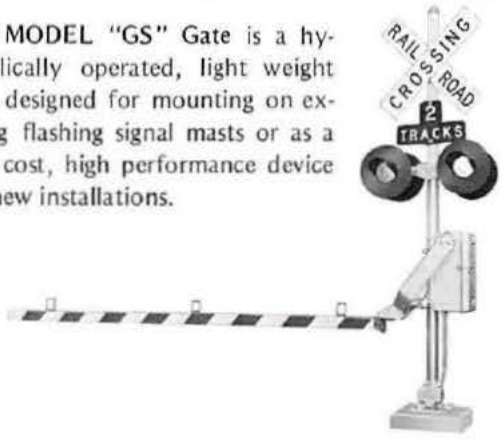

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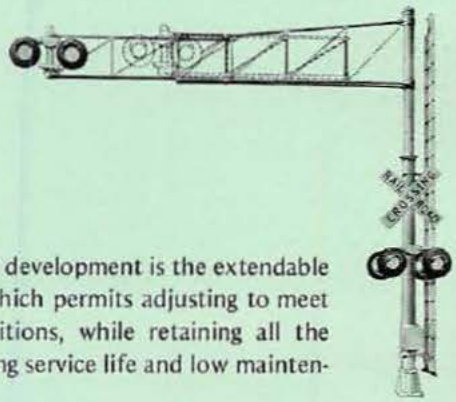

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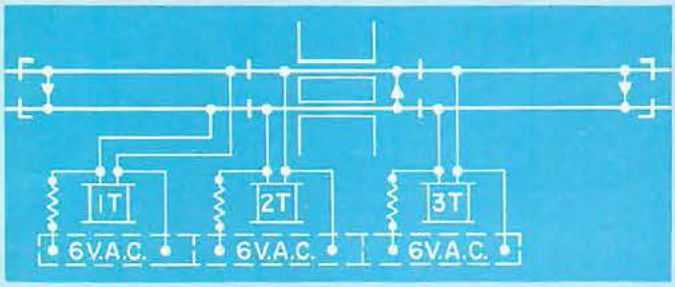

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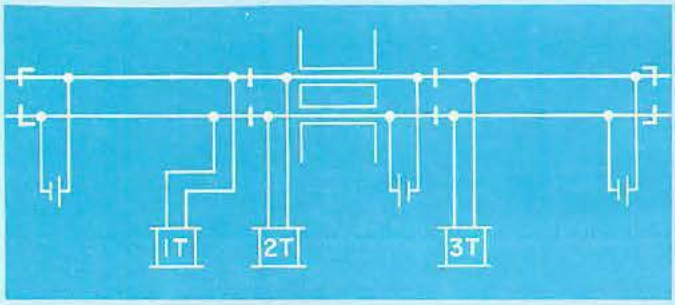

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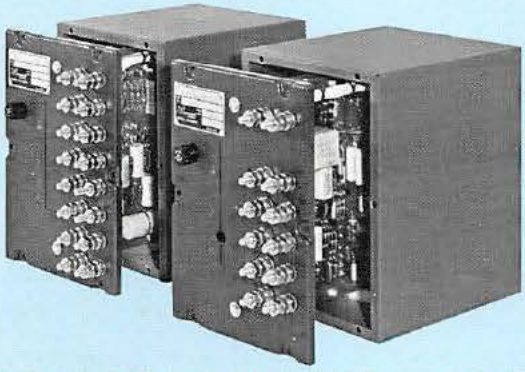

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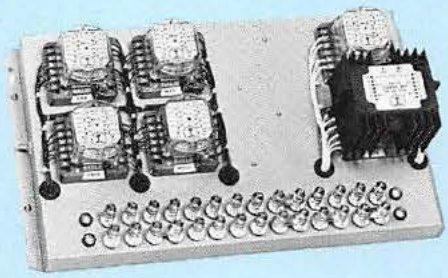

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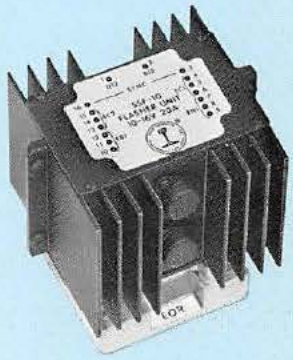
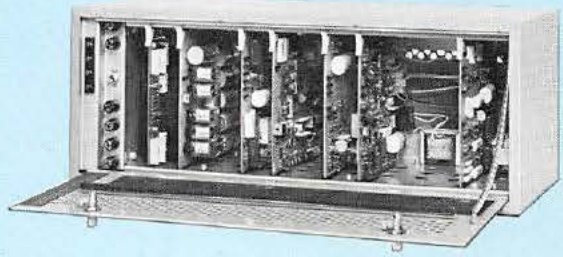


The MIPCO MOTION SENSOR detects motion toward the crossing and operates the crossing devices. When a train stops and/or reverses direction away from the crossing, the Motion Sensor will automatically clear the crossing protection. This allows high speed rail traffic and eliminates unnecessary vehicular stoppages due to switching operations, etc.



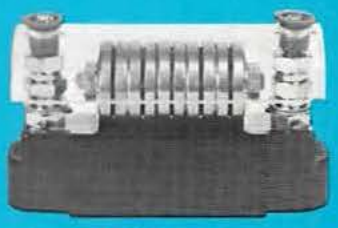
The MIPCO "GCP" GRADE CROSSING PREDICTOR is highly recommended to keep signal operations to a minimum at locations where train speeds vary, high density traffic is present and switching moves exist — the highest state of art currently in use. The device is fail safe in design offering constant warning with a solid state analog computor that computes both train speed and distance as it approaches the crossing and activates the crossing protection on a time basis by computing the trains arrival. Elapsed time, from the instant the protection is activated until the train enters the crossing, is the same regardless of train speed. If a train stops before reaching the crossing, the warning signals are also stopped. As the train again starts toward the crossing, the GCP reactivates the crossing protection.

ACCESSORIES

RACO "CLEARVIEW" LIGHTNING ARRESTER

RACO SEALED RESISTOR

RACO EQUALIZER AND COVER



RACO POWER PROTECTOR

RAILHEAD BOND AND PUNCHES

RACO STRAN PIN AND BOND STRAND

RACO BOOTLEG

RACO ADJUSTABLE RESISTOR

RACO KEY OPERATED CIRCUIT CONTROLLER

RACO SOLID STATE PROTECTOR

RACO HEAVY DUTY SURGE PROTECTORS

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ENGINEERING SERVICE

RACO and MIPCO have the engineering, designing, manufacturing and installing abilities to render professional assistance in providing all types of automatic Railroad Highway Grade Crossing signal protection. Complete turnkey packages or individual equipment are available to up-date or improve existing installations.

Safetran Systems Corporation

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